REMARKS

In specific response to the Advisory Action, applicant acknowledges that Halssig discloses multiple sensors in a fuzzy logic controller. However, by virtue of the present amendment, claim 14 has been cancelled and claim 10 amended to more clearly include the learning means or original claim 14. The claims do not raise new issues since they contain the subject matter previously presented. It is applicant's contention that for the following reasons, the references cited in the last Office Action cannot be reasonably combined to meet the invention as presently claimed under 35 U.S.C. § 103.

The final rejection makes the point that the individually claimed components are disclosed in the cited prior art. For example, plural sensors are disclosed in the fuzzy controller of Halssig. The Victor and Miller references disclose the use of a video camera in a furnace. Aoki discloses a predictive network for defining various set points predicatively. Aoki also discloses the use of input evaluating criteria by using known input information as prior information, this being likened to the storing of operator set points of manual operation as set forth in claim 10. The Office Action points out that Aoki discloses a fuzzy logic controller that relies on input from sensors, the prior known information, and actuators.

It is applicant's position that the utilization of image information in a fuzzy logic controlled is not disclosed by any reasonable combination of the cited references. Although video cameras have been shown to monitor events inside a furnace, there is an insufficient bridge in teaching that the image information processed by a mathematical model, can be used by a fuzzy logic controller.

Equally significant is the addition of the learning means, previously of claim 14, into independent claim 10. The learning means forms part of the predictive network that defines the laws of furnace operation, selectively from actual furnace operation, or by simulation of furnace operation using a mathematical model.

On page 2, paragraph 3 of the Office Action, it is mentioned that the learning means is disclosed by Aoki in column 13, lines 13-22. It is applicant's contention that this cited portion of Aoki seems more appropriately linked to the claimed means for storing operator set points as opposed to the claimed learning means that "defines the

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laws of furnace operation, selectively from actual furnace operation, or by simulation of furnace operation using a mathematical model" (claim 10 amended).

Accordingly, claim 10 amended differentiate over any reasonable combination of the references and the combination of all the references cited fails to present a *prima facie* case of obviousness.

For the Examiner's convenience, all remaining claims, 10, 12, 13, and 15-18 are attached.
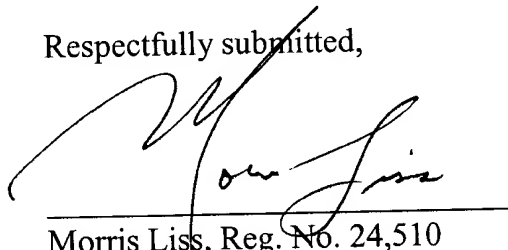
In view of the above, consideration and allowance are, therefore, respectfully solicited.

In the event the Examiner believes an interview might serve to advance the prosecution of this application in any way, the undersigned attorney is available at the telephone number noted below.

The Commissioner is hereby authorized to charge any fees, or credit any overpayment, associated with this communication, including any extension fees, to CBLH Deposit Account No. 22-0185.

Date: May 21, 2003   Respectfully submitted,

Morris Liss, Reg. No. 24,510
Customer Number 30678
Connolly Bove Lodge & Hutz LLP
1990 M Street, N.W., Suite 800
Washington, D.C. 20036-3425
Telephone: 202-331-7111

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please cancel claim 14 and amend claim 10 as follows:

10.   (Amended) A system for controlling the melting of a glass batch in a glass melting furnace and comprising:

a plurality of sensors for detecting different types of operating conditions in a furnace;

means for creating, and analyzing images taken inside a furnace in accordance with a predetermined mathematical model;

a predictive network which, depending on the state of the furnace and information regarding changes in production over time, defines various set point values assigned to furnace actuators;

means for storing operator set points corresponding to manual operation of furnace actuators under preselected conditions;

fuzzy logic controller means running a fuzzy logic control algorithm and connected at a plurality of respective inputs to the sensors, image means, predictive network, and operator set points storing means, the controller means generating a plurality of output signals for respective actuators that will control melting in the furnace in accordance with objectives defined by the operator set points; and

the predictive network further including means for learning operating laws of the furnace during a learning phase, wherein the learning means defines the laws of furnace operation, selectively from actual furnace operation, or by simulation of furnace operation using a mathematical model.